

UC Davis study says it found source of air pollutants

By Edward Ortiz

Sacramento Bee and Modesto Bee, Wednesday, Feb. 20, 2013

Researchers at UC Davis have established, for the first time, a link between toxic substances that pollute the air and what causes them.

The research, announced Monday by the California Air Resources Board and the Electric Power Research Institute, holds the potential to better regulate sources of air pollution – an issue of great import to the asthma-plagued Sacramento and San Joaquin valleys.

"People have looked at direct emissions from sources – like taking things right out of tailpipes and out of other sources," said Anthony Wexler, director of the Air Quality Research Center at UC Davis, who conducted the study with fellow UC Davis professor Kent Pinkerton.

"What distinguishes us is that we're actually sampling right from the atmosphere in the way we breathe," Wexler said. "Because you don't put your mouth up against a tailpipe."

Establishing a picture of what toxic brew is in the atmosphere and what sources it originates from, plus how those chemicals react, is key to fine-tuning environmental regulation, as well as the costs borne from it, said Will Barrett, policy manager with the American Lung Society.

"The findings are significant in that they underscore the importance of controls on things like wood burning and transportation sources of the most harmful particles that affect the Valley," said Barrett.

"This is especially important for the Central Valley since it is facing some of the more daunting air quality challenges in the nation, particularly due to fine-particulate pollution," Barrett said.

Wexler said the research is seen as a tool for regulatory agencies. "This was one of my objectives – to help regulators figure out which sources to regulate so that we're primarily regulating sources that have a high toxicity and not so much the sources of low toxicity," he said.

Someday, the research may have an effect on mitigating asthma rates.

An estimated 11.9 percent of Californians report that they have been diagnosed with asthma at some point in their lives, compared to the national average of 10.1 percent, according to California Air Resources Board data.

The UC Davis research sampled air in Fresno during four weeks in the summer of 2008 and four during the winter of 2009. Mice were exposed to the samples of toxic particulate matter that were captured in order to establish what effect the particles had on their lungs.

The research found that in summer the culprits causing the most toxic air pollution were vehicle emissions and the use of charcoal briquets. Biomass burning for winter heating and vehicle emissions were identified as the worst culprits in the winter.

The recent evolution of instruments known as single particle mass spectrometers made the study possible. Those instruments analyze the composition of chemicals in the atmosphere and 10 of them were used in the study.

"That let us look at the chemical composition of these particles very quickly," Wexler said.

Though promising, Wexler said, the research is preliminary.

"We need more studies – this is the first time anyone has done anything like this. Other people need to do similar studies, using the same instrumentation, and in other cities to make sure the results are robust," he said. "Because you're not going to make any big regulatory moves based on one experiment."

Valley air officials give preliminary OK to hydrogen plant emissions

By John Cox, staff writer

Bakersfield Californian, Wed., Feb. 20, 2013

Central Valley regulators have tentatively signed off on the air pollution expected to be generated by the Hydrogen Energy California power and chemical plant proposed near Tupman.

While a full project approval is at least several months away, the preliminary determination of compliance issued last week by the San Joaquin Valley Air Pollution Control District signals that HECA appears to meet its various requirements.

It means that even though the project's emissions would exceed otherwise acceptable levels, HECA has mitigated these negative impacts, and its pollution-control equipment is the best available.

The district's finding opened a public comment period set to end at 5:30 p.m. April 17.

As proposed, HECA would produce nitrogen-rich products including fertilizers. Alternately, during times of peak demand for electricity, the 453-acre project would generate about 300 megawatts of power.

It would also create up to 200 permanent jobs and provide a test of carbon-burying technology. The project has been subsidized by a \$408 million grant from the U.S. Department of Energy.

Project neighbors and environmental groups have reacted angrily to the district's preliminary finding.

"This is completely irresponsible," local environmentalist and farmer Tom Franz stated in a news release. "We already breathe some of the dirtiest air in the country. The air district is ready to hand HECA a permit to give the people of Kern County more asthma attacks and health problems."

District staff have determined that the project's emissions would exceed allowable thresholds in five categories: nitrogen oxides (1,587 percent of the district's threshold), sulfur oxides (109 percent), fine particulates (613 percent), carbon monoxide (272 percent) and volatile organic compounds (377 percent).

(The project's byproduct carbon monoxide -- 3 million tons a year of it -- would not be vented to the atmosphere but piped to a neighboring Occidental Petroleum Corp. site to promote oil production. After that the gas would be stored underground indefinitely.)

Air district staff determined that HECA's proposed nitrogen oxide emissions would exceed those of other "modern" power plants in California by 19 percent. To mitigate that difference, HECA's Massachusetts-based owner, SCS Energy LLC, agreed to pay fees that the district intends to award in terms of grants and incentives geared toward reducing emissions around the Central Valley.

SCS has also purchased what are known as clean air credits to offset the project's expected air pollution.

For example, SCS acquired nitrogen oxide and sulfur oxide credits that became available with the shutdown of the former Big West refinery on Rosedale Highway in 2009. The refinery's subsequent owner has since reopened and re-closed the plant several times without affecting HECA's clean air credits, which records show the company bought in November 2009.

A HECA spokeswoman said Tuesday that the company does not need to buy any more air credits for the project.

Ultimate approval of the HECA project will be up to the California Energy Commission, which is scheduled to decide on a final permit later this year.

SCS Energy hopes to start construction this year and begin operations by the end of 2017.

HOW TO COMMENT

Public comments on the Hydrogen Energy California project should be sent to David Warner, director of permit services for the San Joaquin Valley Air Pollution Control District, 34946 Flyover Court, Bakersfield, CA 93308. All public comments are due by 5:30 p.m. April 17.

A single public hearing on the district's preliminary determination of compliance has been scheduled. It is set to begin at 6 p.m. April 2 at the district's office at 34946 Flyover Court.

Clean-air chief Gina McCarthy seen as likely pick to head EPA

By NEELA BANERJEE, Tribune Washington Bureau
Sacramento Bee, Friday, Feb. 15, 2013

WASHINGTON -- President Barack Obama is expected by environmental advocates to name Gina McCarthy, the controversial chief of the Environmental Protection Agency's air pollution arm, to head the agency.

The nomination of McCarthy, 58, who has served as the head of the EPA's clean-air division since 2009, could come as early as next week, according to officials of three environmental groups. Her boss, Lisa Jackson, left the administrator's post Thursday.

McCarthy's nomination is likely to draw fire from congressional Republicans. Over the last four years, they have attacked the EPA's new regulations to cut air pollution, including emissions of greenhouse gases, as job-killing government overreach.

Obama's choice of McCarthy also would signal that he is poised to make good on the more aggressive rhetoric he has used lately about the urgency of addressing climate change, environmentalists said.

During his State of the Union address Tuesday, Obama departed from his past cautiousness to make a moral case for tackling climate change. He challenged Congress to cut greenhouse gas emissions, but said he would use his authority if it failed to take action.

"If he were to pick Gina, it means he really means it," said Jody Freeman, a Harvard law professor and former White House counselor for energy and climate change who worked closely with McCarthy from 2009 to 2010.

"I think she is focused like a laser beam on being a smart and effective regulator. She's not interested in anything that's not practical, and she understands perfectly the president's agenda," Freeman said.

The White House declined to comment on the possibility of a McCarthy nomination.

"The EPA air administrator is well situated to lead the agency, if only because some of the most costly and wide-sweeping decisions come from the air office," said Scott Segal, a lawyer with Bracewell & Giuliani, a Houston law firm that often represents energy companies.

"That said, Gina McCarthy is engaging, effective and willing to listen to the regulated community - even if we don't always agree with her final rules," he said.

A Boston native, McCarthy served under four Massachusetts governors before being picked by former Gov. Mitt Romney as one of his top environmental staffers there. But she left shortly afterward to serve as commissioner of Connecticut's environmental protection department from 2004 to 2009, where she helped implement a regional scheme to trade carbon credits to reduce greenhouse gas emissions from power plants.

McCarthy began her tenure with the Obama administration's EPA after the Supreme Court issued a landmark decision enabling the agency to regulate emissions of carbon dioxide, the main driver of climate change.

By May 2009, McCarthy's office of air and radiation had hammered out a plan with the White House, the auto industry, states like California, environmentalists and the United Auto Workers union to boost fuel efficiency considerably in passenger vehicles from 2012 to 2016.

In 2011, the EPA rolled out a second phase of fuel economy standards that would increase average fuel economy to 54.5 miles per gallon by 2025.

Under McCarthy, the air office also issued unprecedented rules to curtail emissions of mercury and carbon dioxide from new power plants. Her unit's work stirred the ire of many in industry and their state and congressional allies, who argued that the rules were too onerous.

That led to many appearances by McCarthy at often testy congressional hearings, solid preparation for the EPA administrator in light of the aggressive agenda that Obama said he would now pursue. Most of

her office's regulations withstood many legal challenges. But a long-awaited rule to cut smog-forming ozone was scuttled by the president himself in 2011.

The second-term EPA will have to make final the rules on carbon emissions from new power plants, and it faces demands from environmentalists to issue similar standards for existing plants, the biggest emitters of greenhouse gases in the U.S.

[Fresno Bee Earth Log, Tuesday, Feb. 19, 2013:](#)

Most-toxic particles ID'd

By Mark Grossi

Not all pollution particles are created equally bad for you. The ones from cars, trucks, fireplaces and cooking are probably getting the worst reactions from your body.

Two University of California scientists came to the conclusion after collecting air samples from Fresno in summer 2008 and winter 2009. They identified the particles in the samples and allowed laboratory mice to inhale them.

Studying body chemical changes and inflammation in the mice, they found that some particles cause a bigger reaction.

The approach is the first of its kind, according to the UC Davis scientists, Anthony Wexler and Kent Pinkerton. Wexler is the director of the Air Quality Research Center at Davis. Pinkerton is professor of pediatrics at the School of Medicine.

Their work on this study will help regulators in the future as they tighten standards to protect human health.

"Right now, air-quality standards are based on the mass of the particulate matter and don't distinguish between natural sources, like sea spray, and known toxic sources, like diesel exhaust," said Wexler, who led the study.

The bottom line: New standards someday might be aimed at certain types of particles, instead of all particles. It would save money for industries in the cleanup.

The study was funded by the California Air Resources Board and the Electric Power Research Institute.